

## CLAIMS

- 5           1.     Method of maintaining files on a computer grid comprising:  
              detecting at least one member of the computer grid;  
              determining a usage profile of the member;  
              determining a fingerprint for files stored on the member;  
              storing the fingerprint with an associated file name in a database;  
              and  
10           performing a maintenance function based on the database.
2.     The method of claim 1 wherein the database comprises at least  
              one file characteristic.
- 15           3.     The method of claim 2 wherein the file characteristic is selected  
              from a group consisting of a file location, a file time, and a file size.
4.     The method of claim 1 further comprising identifying at least one  
              exempt member wherein the exempt member is exempt from the maintenance  
20           function.
5.     The method of claim 1 wherein performing the maintenance  
              function comprises:  
                      determining a storage file; and  
25           archiving the storage file.
6.     The method of claim 1 wherein performing the maintenance  
              function comprises:  
                      determining an unnecessary file based on the database; and  
30           deleting the unnecessary file.

7. The method of claim 1 wherein performing the maintenance function comprises:

5 determining a corrupt file based on the fingerprint; and  
repairing the corrupt file.

8. The method of claim 1 wherein performing the maintenance function comprises:

10 determining a tagged file;  
locating the tagged file; and  
restoring the tagged file.

9. The method of claim 1 wherein performing the maintenance function comprises:

15 determining a member disk capacity; and  
performing the maintenance function based on the member disk capacity.

10. The method of claim 1 wherein performing the maintenance function comprises:

20 determining an optimal maintenance time of the member based on the usage profile; and  
performing the maintenance function at the optimal maintenance time.

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11. A computer usable medium including a program for maintaining files on a computer grid comprising:

5 computer readable program code for detecting at least one member of the computer grid;

computer readable program code for determining a usage profile of the member;

computer readable program code for determining a fingerprint for files stored on the member;

10 computer readable program code for storing the fingerprint with an associated file name in a database; and

computer readable program code for performing a maintenance function based on the database.

15 12. The computer readable program code of claim 11 wherein the database comprises at least one file characteristic.

13. The computer readable program code of claim 12 wherein the file characteristic is selected from a group consisting of a file location, a file time, and

20 a file size.

14. The computer readable program code of claim 11 further comprising identifying at least one exempt member wherein the exempt member is exempt from the maintenance function.

25 15. The computer readable program code of claim 11 wherein performing the maintenance function comprises:

determining a storage file; and

archiving the storage file.

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16. The computer readable program code of claim 11 wherein performing the maintenance function comprises:  
determining an unnecessary file based on the database; and  
5 deleting the unnecessary file.

17. The computer readable program code of claim 11 wherein performing the maintenance function comprises:  
determining a corrupt file based on the fingerprint; and  
10 repairing the corrupt file.

18. The computer readable program code of claim 11 wherein performing the maintenance function comprises:  
determining a tagged file;  
15 locating the tagged file; and  
restoring the tagged file.

19. The computer readable program code of claim 11 wherein performing the maintenance function comprises:  
20 determining a member disk capacity; and  
performing the maintenance function based on the member disk capacity.

20. The computer readable program code of claim 11 wherein performing the maintenance function comprises:  
25 determining an optimal maintenance time of the member based on the usage profile; and  
performing the maintenance function at the optimal maintenance time.  
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